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Please find below and/or attached an Office communication concerning this application or proceeding.

BEFORE THE BOARD OF PATENT APPEALS

AND INTERFERENCES

Application Number: 10/625,715

Filing Date: July 22, 2003

Appellant(s): Joseph Skiba

Ernest D. Buff

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 17, 2004 appealing from the Office action mailed July 26, 2004.

This is in response to the brief on appeal filed December 17, 2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection is correct.

(7) Claims Appendix

A substantially correct copy of appealed claims 1, 3, 5-9, 11 and 12 appears on page 26-28 of the Appendix to the appellant's brief. The minor errors are as follows: In claim 9, line 7 --high density polyethylene reinforcing fibers-- should be inserted after "para-aramid or".

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 5, 6, 8, 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent to Suzuki et al. in view of Schiebl et al. Note paragraph [0017] of the translation of Suzuki et al. and the helmet shell defined by "organic fiber" with inner and outer surfaces reinforced with a bonded net or mesh of long length fibers (unidirectional fiber sheets) detailed in paragraphs [0012] and [0013]. Suzuki et al. teaches that it is old and well known to form the shell of polycarbonate (see paragraph [0002]) and to provide a shock absorbing inner helmet 2,3 and attachment means 4 in the helmet system (see paragraph [0002]). It would have been obvious to one of ordinary skill in the art at the time of the invention to form the shell of polycarbonate and to provide the system with an inner helmet and attachment means as claimed in view of such prior art teaching of Suzuki et al. to achieve the advantage of defining a racing sport helmet. With respect to claims 1 and 9 Suzuki et al. do not teach forming the net or mesh of para-aramid fibers as claimed. Schiebl et al. teach old the use of such fibers (KEVLAR), see column 3, lines 21-40. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Suzuki et al. such that the net or mesh or unidirectional fiber sheet is formed of KEVLAR in the manner of Schiebl et al. to achieve the advantage of lightweight and strength. With respect to claim 5 Suzuki et al. discloses a length of 5cm for the prior art. It would have been obvious to

maintain the length of at least 5cm in the invention of Suzuki et al. since one of ordinary skill in the art at the time of the invention would readily have recognized the goal of Suzuki et al. of employing long length fibers greater than that of the prior art. With respect to claim 6 note the teaching of the use of Styrofoam by Suzuki et al. (see paragraph [0002]). With respect to claim 8 note the strap 4 as taught by Suzuki et al. With respect to claim 11 note the teaching of the use of polycarbonate in Suzuki et al. (see paragraph [0002]). With respect to claim 12 note such teaching in paragraph [0009] of the translation. With respect to claim 9 product-by-process claim 9 even though reciting features in terms of how they are made, e.g. injection molding and molding, is still a product claim, and it is the patentability of the product, not the process steps, which must be determined. Suzuki et al. teach the shell of "organic fiber" regardless of how it is formed and teach the mesh or net of the helmet system regardless of how formed with the shell. It would have been obvious to one of ordinary skill in the art at the time of the invention to form the shell of polycarbonate an "organic fiber" in view of such prior art teaching of Suzuki et al. (see paragraph [0002]) to achieve the expedience of using a readily available helmet material known for withstanding an impact thereto.

2. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Schiebl et al. as applied to claim 1 above, and further in view of Halstead et al. Suzuki et al. do not teach either the helmet shell thickness or inner helmet thickness as claimed. Halstead et al. teach old a shell thickness in the range of 1/16 to 1/4 inch (see column 1, line 67) and an inner helmet thickness in the range of 0.5 to 1 inch (see column 4, lines 8-24). It would have been obvious to provide the shell and inner helmet of Suzuki et al. with the respective thickness of the shell and inner helmet of

Halstead et al. since one of ordinary skill in the art at the time of the invention would readily have recognized such thickness as adequate starting points for producing a functional helmet system.

(10) Response to Argument

The reference to Suzuki et al. is seen to set forth a general arrangement for forming a lightweight sports helmet. Such arrangement encompasses forming a polycarbonate shell (see paragraph [0002] of the translation) and employing glass fiber sheets equivalent to a mesh or net (see paragraph [0012] of the translation) to reinforce both inner and outer surfaces (see paragraph [0020] of the translation) of the shell. The Suzuki et al. reference would be susceptible to any reasonable and obvious modification within the spirit of the invention taught therein. That Suzuki et al. discloses glass fiber sheets/mesh/net for reinforcing the shell in no way precludes one of ordinary skill in the art from using other old and well known fiber materials in forming the sheets. Forming the reinforcing sheets to comprise one well known fiber material (KEVLAR) as opposed to another (glass fibers) is maintained to embody an obvious modification for one of ordinary skill in the art at the time of appellant's invention. The use of KEVLAR in lightweight helmet constructions is supported by both Suzuki et al. (see paragraph [0003] of the translation) and Schiebl et al. (see column 3, lines 37-39). Suzuki et al. in fact discloses the lightweight benefit of KEVLAR fibers (see paragraph [0003] of the translation), even though not disclosing its use in the helmet example set forth therein. Schiebl et al. clearly provide support for the alternative use of KEVLAR and glass fiber (see column 3, lines 37-39).

Contrary to appellant's arguments drawn to Schiebl et al., for instance beginning page 14, line 3 of the brief, the reference to Suzuki et al., not the reference to Schiebl et al., is being relied on for teaching a bonded mesh or net (equivalent to the glass fiber sheets). Appellant's remarks drawn singly to Schiebl et al. are not well taken as Schiebl et al. is being relied on in combination with Suzuki et al. and properly such combination should be addressed. The reference to Schiebl et al. is merely being relied on for teaching fiber materials usable for forming the sheets/mesh/net. The advantage of using KEVLAR fiber material is clearly supported by the disclosure of Suzuki et al. and Schiebl et al. as noted above.

Contrary to appellant's arguments drawn to Suzuki et al., for instance beginning page 14, line 19 of the brief, that the example of the sheet/mesh/net of Suzuki et al. did not comprise KEVLAR in no way precluded those of ordinary skill in the art at the time of appellant's invention from alternatively using such a material, such alternative use clearly being supported by the disclosure of Schiebl et al. Schiebl et al. supports the choice of KEVLAR as being one that requires the mere skill of the designer in the art with the advantages of either KEVLAR or glass fiber being well known.

In response to appellant's arguments that the instant claims are being rejected on the basis of hindsight reconstruction of the invention, as per the rejection of the instant claims, the only difference between Suzuki et al. and claims 1 and 9 is the use of para-aramid fibers (KEVLAR). The base reference to Suzuki et al. and the secondary reference to Schiebl et al. each evidence the advantage of KEVLAR in constructing a helmet. Thus only knowledge clearly disclosed in the prior art is being relied on in the rejection of the appellant's claims. The presence of the foam core in the reference to

Schiebl et al. is considered to be of no moment in regards to the additional distinct teaching therein of the alternative use of KEVLAR and glass fiber. Suzuki et al., not Schiebl et al., are being relied on to teach the general components of appellant's shell. Again, Schiebl et al. is merely being relied on to teach the use of a particular material, KEVLAR, which material is maintained to be usable even in helmet environments not including a foam core as noted in column 5, lines 40-46 of Schiebl et al.

In response to appellant's arguments drawn to claim 9 beginning page 18 of the brief, the use of the sheets/mesh/net of Suzuki et al. on both the inner and outer surfaces is supported in paragraph [0020] of Suzuki et al., the sheets used in place of prior art sheets and thus with prior art polycarbonate helmets is supported in paragraph [0014] of Suzuki et al. and the alternative use of KEVLAR fiber material is taught by Schiebl et al. In response to appellant's arguments drawn to claim 5 beginning page 19 of the brief, clearly set forth in Suzuki et al. are prior art fiber lengths of about 5cm (see paragraph [0004]) and the characterization of the sheets of the invention as employing long fibers as compared to the prior art (see paragraph [0013]). Clearly the invention implies lengths at least greater than 5cm. In response to appellant's arguments drawn to claim 12 beginning page 21 of the brief the presence of sheets on the inner and outer surfaces of the helmet body as supported in paragraph [0020] of Suzuki et al. readily addresses appellant's concern with regard to tensile and compressive stresses being accommodated. In this regard note column 3, lines 32-34 of Schiebl et al. and the discussion of stretching and compressing by layers of a helmet shell.

In response to appellant's arguments drawn to the rejection of claims 3 and 7, appellant's arguments drawn singly to Halstead et al. are not well taken, as the reference

to Suzuki et al., not that to Halstead et al., is the basis upon which the rejection is made. Suzuki et al. in fact establishes a shell thickness of 2.76mm (0.11 inch) within the range claimed (see paragraph [0017]). Halstead et al. clearly establishes as part of the well known prior art both a shell thickness and a helmet thickness within the ranges claimed. The teaching of Halstead et al. is maintained to be applicable in any helmet construction considered for wear in a sport such as that of Suzuki et al.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Rodney M. Lindsey

Conferees:

John Calvert

Kate Moran

KATHERINE MORAN
PRIMARY EXAMINER